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REPORT NO. 5

Cotton Fiber and Processing Test Results

CROP of

1973



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38117 October 26, 1973

This is the fifth of a series of reports of fiber and processing test results from the 1973 cotton crop. Subsequent reports in this series will follow at approximately two-week intervals during the harvesting season, and will be summarized in a comprehensive report at the end of the season. This series will present data on the same subject as "Summary of Cotton Fiber and Processing Test Results, Crop of 1972", May 1973. These reports are published by the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, Memphis, Tennessee.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1973

Discussion of Test Results

Cotton Division laboratories of the Agricultural Marketing Service, USDA report that average fiber properties for medium staple samples tested to date for the U. S. are shorter and weaker at 1/8" gage strength. Picker and card waste is less. Yarns spun from these samples show yarn appearance grades to be lower than a year ago. Samples tested to date show more yarn imperfections. Average spinning potential yarn number is lower.

Short staple samples tested from the Southwest show fiber length to be longer and uniformity higher than a year ago. Fiber strength at zero gage is weaker. Shirley Analyzer nonlint content and picker and card waste are higher than last year. Yarns spun from these samples are stronger with lower appearance grades than a year ago. Average spinning potential yarn number is lower.

Medium staple samples tested from the Southeast are limited, however, the fiber length is longer than a year ago. Fiber strength at zero gage is weaker and at 1/8" gage strength is stronger on the limited number of samples tested. The Shirley Analyzer nonlint content is more than a year ago. Yarns spun from these samples are stronger. The appearance grades are lower. Imperfections are greater than a year ago.

Medium staple samples tested from the South Central show approximately the same fiber properties as a year ago. Fiber strength is slightly weaker. Picker and card waste is less this season. Yarns spun from these samples show higher appearance grades and fewer imperfections. Average spinning potential yarn number is lower.

Medium staple samples tested from the Southwest show fiber length to be longer than a year ago. Fiber strength at zero gage is weaker. Picker and card waste is less compared with last season. Yarns spun from these samples are weaker. Appearance grades are lower with imperfections being higher this year. Average spinning potential yarn number is lower.

The limited number of medium staple samples tested from the West show fiber length to be longer and more uniform. Fiber strength is strong at both zero and 1/8" gage. Shirley Analyzer nonlint content and picker and card waste are lower than last season. Yarns spun from these samples are stronger. Average spinning potential yarn number is lower.

Long staple samples tested from the South Central are limited, however, the results show fiber properties to be shorter, coarser and weaker than last season. Comber waste is less than a year ago. Yarns spun from these samples are weaker and have higher appearance grades than last season. Yarn imperfections are more for carded yarns. Average spinning potential yarn number is lower than a year ago.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States
through October 19, 1973

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results							
		Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality		Spin. Potent.	Yarn No.			
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Skein str.	Appear- ance					
				Pct.			Rdg.	Mpsi			G/tex	Pct.	Lbs.	Index	No.
<u>Short Staple:</u>															
Southwest															
15		0.98	45	4.4	84	21	2.9	5.8	95	118	23	48			
10		1.00	47	4.4	82	21	4.2	6.4	100	111	22	44			
<u>Medium Staple:</u>															
Southeast															
10		1.09	45	4.4	84	23	2.8	5.8	108	107	20	68			
2		1.14	46	4.4	82	24	4.0	6.1	116	95	37	68			
South Central															
37		1.09	46	4.5	86	24	2.7	5.9	108	112	20	67			
12		1.10	46	4.6	85	23	2.7	5.1	110	118	18	59			
Southwest															
24		1.06	46	4.5	84	22	2.9	6.0	103	121	22	63			
22		1.08	45	4.4	81	22	2.6	5.4	99	100	24	59			
West															
2		1.10	44	4.5	78	22	2.2	4.9	96	115	20	65			
2		1.12	46	4.6	100	26	1.8	4.2	130	115	21	72			
U. S. Average															
73		1.11	45	4.5	83	23	2.7	5.9	106	114	21	66			
38		1.09	46	4.5	83	22	2.7	5.3	107	106	23	60			
Significant dif- ference <u>2/</u>															
		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3			

1/ Based on a limited number of samples of modal quality2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through October 19, 1973
1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results										SPY				
		Length		Mike	Strength		SA Non- lint	P&C Waste	Comber Waste	Yarn Quality					Imprfctns card comb	No.						
		Span	Unif		Zero gage	1/8" gage				Strength carded	combed	Appearance carded	Indx combed	Indx card			No.					
																			22s Carded & Combed Yarn			
No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.	No.	No.	No.						
Long Staple:																						
South Central																						
1972	2	1.17	45	4.4	90	25	3.8	8.1	15.7	117	132	105	115	15	10	78						
1973	2	1.14	45	4.6	88	24	3.8	8.0	17.0	112	130	125	130	20	8	66						
Significant Difference 2/																						
		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	5	5	5	2	2	3						

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification & Sample Number				Fiber Test Results						Processing Test Results - Carded Yarns														
Grade		Name & Code	Stple	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-lint		Color Raw Stock		P & C		Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent-ial
				2.5% span	Unif		Zero Gage	1/8" Gage		Pct	Pct	Gra	Yel	Waste	8s or 7 1/4 tx	22s or 27 tx	8s or 7 1/4 tx	22s or 27 tx	8s or 7 1/4 tx	22s or 27 tx	8s or 7 1/4 tx	22s or 27 tx		
No	32s			In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	
SOUTHWEST AREA																								
CENTRAL TEXAS																								
AVALON																								
1	MID	31	31	.97	45	4.6	89	21	6.1	3.0	2	4	4.9	315	99	7.9	6.8	130	120	17	15	43		
PRINCETON																								
1	LP	51	33	1.02	48	4.4	89	22	5.1	5.6	3	3	7.6	330	107	7.3	6.8	120	110	23	23	47		
TAYLOR																								
3	LP	51	32	1.02	48	4.4	84	21	6.5	4.6	4	3	7.2	313	99	7.7	6.8	130	120	22	17	42		
WAXAHACHIE																								
1	MID LT SP	32	32	0.97	46	4.6	81	23	6.4	3.6	2	4	5.9	299	93	7.6	6.3	120	100	41	32	43		

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification				Fiber Test Results						Processing Test Results - Carded Yarns												
Sample Number				Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent- ial
No	Grade	Stple	32s	2.5% span	In		Pct	Rdg			Mpsi	G/tex		Pct	Gra	Yel	Lbs	Pct	22s or 27 tx	50s or 12 tx	22s or 27 tx	
SOUTH-EAST AREA																						
GEORGIA																						
TENNILLE																						
1	LM	51	35	1.15	45	4.2	82	24	6.7	4.4	2	3	6.4	114	44	6.6	5.0	80	70	53	42	74
NORTH CAROLINA																						
LAURINBURG																						
1	SLM	41	35	1.13	47	4.5	81	24	6.4	3.5	2	3	5.8	118	44	6.4	5.0	110	80	21	17	63
SOUTH CENTRAL AREA																						
ARKANSAS																						
ALTHEIMER																						
1	SLM	41	35	1.12	45	4.9	84	22	7.4	2.1	2	3	5.1	110	42	6.6	5.1	110	80	20	13	66
BAY																						
1	SLM	41	34	1.10	46	4.8	83	22	7.3	3.7	3	3	5.5	107	36	6.6	4.4	120	90	19	14	57
LFACHVILLE																						
1	SLM	41	35	1.12	47	4.4	85	25	7.0	3.0	2	3	5.3	116	42	6.8	5.1	110	80	25	21	62
LEPANTO																						
1	SLM	41	35	1.13	46	4.6	85	23	7.2	3.4	2	3	5.1	114	40	6.8	4.8	120	90	16	12	65
VICTORIA																						
1	SLM	41	35	1.13	46	4.7	86	25	6.9	3.6	2	3	5.6	117	41	6.5	4.8	110	90	24	20	63
WILSON																						
1	MID	31	35	1.11	45	4.4	81	22	7.5	1.6	1	2	4.2	114	41	7.1	5.3	130	90	14	11	57
MISSISSIPPI																						
BRUCE																						
1	SLM	41	34	1.09	46	4.5	83	22	6.9	1.8	2	3	4.3	112	37	6.5	4.8	120	100	12	10	54
INCINOLA																						
1	SLM	41	34	1.09	45	4.4	86	23	7.7	3.7	1	2	5.1	110	38	6.6	4.8	120	100	13	9	59
LYCEN																						
1	SLM	41	34	1.10	45	5.0	84	23	6.7	2.7	2	3	4.9	104	36	6.4	4.2	110	90	15	15	56

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results						Processing Test Results - Carded Yarns																		
No	Grade	Stple	32s	In	Pct	Rdg	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength			Elongation			Appearance Index			Imprfct'ns		Spin. Potential
							2.5% span	Unif.		Zero Gage	1/8" Gage			Mpsi	G/tex		Pct	Gr	Yel	Lbs	Lbs	Pct	Pct	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
SOUTH CENTRAL AREA--(Continued)																												
MISSOURI																												
CAMPBELL																												
1	SLM	41	34	1.08	47	4.5	91	23	6.6	3.0	2	3	5.8	98 PERCENT			107	35	6.4	4.4	120	90	22	13	58			
PORTAGEVILLE																												
1	SLM	41	34	1.08	47	4.9	85	21	6.8	1.7	2	3	4.7	95 PERCENT			96	31	6.2	4.2	120	90	14	7	50			
TENNESSEE																												
GACSDEN																												
1	MID	31	34	1.08	47	4.6	86	22	7.8	2.5	1	3	4.7	90 PERCENT			110	38	7.1	5.2	120	90	17	11	61			
SOUTHWEST AREA																												
SOUTH TEXAS																												
DANEVANG																												
3	LM	51	34	1.10	44	4.8	85	21	6.1	3.3	4	3	6.1	70 PERCENT			90	30	5.5	3.9	110	90	24	16	49			
CENTRAL TEXAS																												
NAVASOTA																												
1	SLM	41	35	1.12	45	3.3	79	22	7.2	3.2	2	3	4.6	85 PERCENT			116	43	7.0	5.2	100	80	19	14	72			
ROSENBERG																												
2	SLM LT SP	42	34	1.08	45	4.9	85	22	6.8	3.3	4	4	5.5	66 PERCENT			91	28	5.7	3.7	110	80	26	23	52			
WHITNEY																												
1	LM	51	33	1.04	43	3.1	84	21	6.6	4.6	2	3	8.4	100 PERCENT			104	34	6.5	4.7	90	60	37	22	54			
WEST AREA																												
CALIFORNIA																												
PAKERSFIELD																												
1	MID	31	36	1.12	48	4.7	102	27	5.8	2.1	1	3	4.2	100 PERCENT			130	48	6.1	4.6	120	80	22	17	73			
PAKERSFIELD																												
1	MID	31	35	1.13	45	4.6	97	26	6.0	1.6	1	3	4.3	100 PERCENT			131	50	6.5	5.0	110	80	20	16	70			

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns											
No	Grade		Stple	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Comber and Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential			
	Name & Code			2.5% span	Unif.		Pct	In			Rdg	Mpsi		G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs		Pct	Pct	No
SOUTH CENTRAL AREA																									
MISSISSIPPI																									
MORGAN CITY																									
1	SLM		41	37	1.17	46	89	25	6.3	4.8	2	3	8.9	119	40	6.2	4.8	130	100	11	9	70			
												*	15.7	135	50	6.5	5.2	130	110	5	5				
TENNESSEE																									
TRENTON																									
1	SLM		41	34	1.10	44	87	23	6.8	2.7	2	3	7.1	104	34	5.9	4.3	120	90	30	14	62			
												*	18.3	126	45	6.7	5.3	130	110	10	7				

* Comber Waste and Combed Yarn Data

